Photocell Auto Tune

Daylight harvesting systems typically employ photocells to detect ambient light (e.g., natural light, artificial light, or a combination of both). Such daylight harvesting systems have a set-point (e.g., a target level) at a specific time and for a specific duration. The set-point is typically determined by a user of the system.

In some systems, the set-point is determined by manually adjusting the light output level to a desired footcandle or LUX level in an area. The monitoring photocell in the area sends a proportionate signal to the processor which is captured by the processor. The signal can optionally be captured via a command received from an application (such as an application on a mobile device that is in communication with the daylight harvesting system). Once this value is captured, the real time signal from the photocell is then compared to the set-point and the light output is adjusted to match the level of the set-point as necessary.

However, the process could be automated as follows:

The user enters a temporary set-point manually as an initial set-point.

A period of time (e.g., roughly 20 minutes) is scheduled at a specific time in the night. This period in the night eliminates the artificial light contribution in the space which makes the corresponding photocell signal ideal for use as the target level.

Turn the lighting zones ON to full brightness. In an alternative process, the lighting zones could be turned ON to any suitable level of brightness that is less than full brightness.

Automatically capture the photocell signal value.

The temporary set-point is then overridden to the value of the photocell signal captured in the above step.